

Endangered and Nongame Species Program

Larry Niles, Ph.D., Chief

The Endangered and Nongame Species Program (ENSP) was created in response to the enactment of the NJ Endangered and Nongame Species Conservation Act of 1973. Today more than 60 endangered and threatened species call New Jersey home and many more stop over during their migration to rest and forage. To protect these species, the ENSP has adopted and is committed to *actively conserving New Jersey's biological diversity by maintaining and enhancing endangered and nongame wildlife populations within healthy, functioning ecosystems.*

During 1999, in addition to its ongoing protection and management work with bald eagles and peregrine falcons, the ENSP has been actively engaged in:

- Protecting and restoring habitat for the federally-endangered bog turtle by working with local landowners to implement habitat management and restoration plans;
- Protecting the Atlantic Coast breeding areas of beachnesting birds, including the piping plover, least tern and black skimmer. This project also included drafting a statewide framework for piping plover recovery and working with shore communities to adopt beachnester cooperative management agreements;
- Updating the avian portion of the state endangered and threatened species list;
- Conducting an in-depth study on the loss of productivity among Atlantic Coast osprey to determine causes of nest failures;
- Funding improvements at 40 of New Jersey's Watchable Wildlife viewing sites; and
- Conserving the spring stopover of migrating shorebirds along the Delaware Bay by working with both federal and state agencies to control the over-harvesting of horseshoe crabs, whose eggs provide the fuel for the birds' arduous journey to their Arctic breeding grounds.

However, it is the Landscape Project that represents the ENSP's most ambitious undertaking in 1999. Launched six years ago, the Landscape Project offers a comprehensive and innovative approach to protecting areas of critical wildlife habitat throughout New Jersey's major ecosystems. It is designed to help landowners and managers as well as planners and regulatory agencies integrate wildlife protection into their overall land use goals.

This year the Landscape Project moved closer to statewide implementation as the ENSP completed the protocol that delineates and ranks areas critical to wildlife throughout New Jersey. The Remote Sensing Lab at Rutgers University created satellite mapping of the Delaware Bay and Highland regions that features highly detailed habitat boundaries for 1972, 1986 and 1996. When the entire state is completed in 2000, this time series mapping will allow for a detailed assessment of all of New Jersey's critical wildlife habitat.

During 1999, New Jersey's Landscape Project mapping was used by New Jersey's Office of State Planning to evaluate boundaries for the State Plan; by the US Fish and Wildlife Service as a basis to create the first ecosystem-wide mapping of the Delaware Bay; and by the Wildlife Conservation Society in their Metro Project to combat suburban sprawl.

At the local level, a pilot project in Gloucester County was initiated to create critical habitat maps based on species surveys conducted by community volunteers, and in Morris county, the ENSP provided mapping tools that will help Chester Township craft habitat protection ordinances to prioritize and conserve open space.

Office of Fish and Wildlife Health and Forensics

Douglas E. Roscoe, Ph.D., Research Scientist

The Office of Fish and Wildlife Health and Forensics (OFWHF) conducts investigations and research on diseases of captive and free-ranging fish

and wildlife under the Fish and Wildlife Health Project.

In March and April of 1999, OFWHF participated in clinical field trials using a drug, crude carp pituitary (CCP), to assist in obtaining eggs from wild muskellunge for subsequent rearing at the Hackettstown Hatchery. Data obtained are being used to support an application by the US Fish & Wildlife Service (USF&WS) to have the drug approved by the US Food and Drug Administration (FDA) for use as an aid in spawning fish. Approval of the drug will give the division the ability to maintain popular programs which depend on the collection of eggs from wild brood stocks, such as muskellunge, northern pike and walleye.

From May through September of 1999, OFWHF, with assistance from the Bureau of Marine Fisheries, collected and examined American eels from rivers throughout New Jersey for the presence of an exotic nematode parasite which infects the swim bladder of the eel and may cause disease. The parasite, which originated in Japan, was first detected in the United States in an aquaculture operation in Texas in 1989, and now is becoming established in wild populations throughout the range of the American eel.

The Office of Fish and Wildlife Health and Forensics conducts annual health inspections of fish raised at the Hackettstown and Pequest hatcheries. All species of trout reared at the two state hatcheries were found to be free from pathogens which cause furunculosis, enteric redmouth, bacterial kidney disease, salmonid whirling disease, infectious hematopoietic necrosis, infectious pancreatic necrosis, viral hemorrhagic septicemia, and masou virus. These health certifications ensure that hatchery-reared fish are not responsible for the spread of pathogens to wild fish populations, and have enabled the division to maintain its role in fish exchange programs with other states.

The Pequest Hatchery has maintained a status of being free of all serious pathogens known to infect salmonids for the entire 16-year period since trout production at the facility began in 1983.

The pesticide chlordane remains a largely unrecognized cause of wildlife poisonings. During the past year OFWHF conducted research on the way in which chlordane enters the food chain of birds and other wildlife. Although the use of chlordane was banned more than a decade ago, residues remain in the soil. Japanese beetles and other related beetles



have developed resistance to chlordane, allowing them to accumulate large amounts of the pesticide in their bodies as the larvae, or grubs, feed in the soil.

Passerine birds and small raptors that prey on adult beetles as they emerge in July may accumulate a lethal dose. Secondary poisonings occur when larger raptors feed on poisoned passerines.

The research has also demonstrated that bats feeding on nocturnal beetles are being impacted by chlordane. In fact, it is possible that some bats that are submitted for rabies testing because of abnormal behavior may, in fact, be suffering from chlordane poisoning. Additional research is planned on the use of the widely distributed and easily collected Japanese beetles as indicators of soil chlordane levels and the risks posed to insect-eating wildlife.

An outbreak of Epizootic Hemorrhagic Disease (EHD) in wild and captive white-tailed deer caused by a virus transmitted principally by biting midges began on or about August 27 near Salem Creek in Salem County. Two hundred thirty-eight deer were reported dead in or near water bodies in an area extending from southern Gloucester County through Salem County near Salem Creek to Greenwich in Cumberland County. A second outbreak, 3 days following hurricane Floyd, began on September 19 along Rancocas Creek in Burlington County. Ten deer were found dead in the Rancocas epizootic.

During the summer of 1999, five hundred resident Canada geese from 16 locations in NJ were tested for bacteria (*Salmonella*, *Shigella*, *Yersinia*) and protozoan parasites (*Cryptosporidium*, *Giardia*) potentially transmissible to man. The results are under analysis.

Five hundred six deer heads collected in a cooperative survey conducted by the USDA, VS, NJDOA and NJDFW during regular and special hunting seasons between November 1997 and February 1998 were sampled for evidence of Chronic Wasting Disease (CWD) and Bovine Tuberculosis (TB). Laboratory analysis was performed at the USDA-APHIS Labs in Ames, Iowa. No evidence of either CWD or TB was found in any of the samples from New Jersey.

Office of Environmental Review

Andy Didun, Supervising Biologist

A total of 1,076 projects were reviewed for their potential to adversely impact the state's fish and wildlife resource. Through coordination with the division's bureaus and programs, data on known fish, wildlife, or endangered species at or near a project site was provided and used as the justification for redesigning projects to avoid or minimize potential impacts.

While the Office has minimized fish and wildlife impacts on everyday projects by recommending time restrictions, fish passage designs, protection of eelgrass beds, etc., it has also been successful in modifying some major projects that would have impacted significant fish and wildlife habitat. For example, after pointing out the losses and impacts to estuarine fish and shellfish and their habitats, designs for a new causeway bridge over Great Egg Harbor Bay in the reconstruction of Rt. 52 have been significantly altered.

Originally, the project would have channelized Rainbow Channel, created new channels through high density shellfish beds and redirected Intracoastal Waterway and ship channel traffic through the channel at the expense of current and future fisheries with a permanent loss of recreational use.

Similarly, through coordination with the Army Corps of Engineers, the office has been effective in diverting the use of the Sea Isle Lump (a prime fishing area) as a sand borrow area for proposed beach nourishment activities in the Sea Isle City-Avalon area.

Together with the support of the division's bureaus and programs, as well as the cooperation of state and federal permit issuing agencies, the Office of Environmental Review continues to have an influence in the way developmental projects are designed in New Jersey.

Office of Information & Education

David Chanda, Chief

The Office of Information and Education is responsible for interpreting technical information about the fish and wildlife resource and its management. This information is then used to develop and conduct division training and education programs geared to individuals interested in and affected by New Jersey's fish and wildlife. These programs include information about the economic, aesthetic, environmental and recreational values of New Jersey's numerous aquatic, game, nongame and endangered species.

The Office of Information and Education conducts educational programs and outreach efforts which promote the wise and enjoyable use of fish, wildlife and other natural resources. Safeguarding these resources for future generations is a prime focus of these programs.

The Office of Information and Education maintains interaction with the public through involvement in outdoor expositions, hunter education courses, the Deer Classic, Governor's Surf Fishing Tournament, Record Fish and Skillful Angler programs, urban fishing programs, Emmy-winning wildlife films, "Becoming an Outdoors-Woman", Project WILD and Aquatic WILD for teacher education, annual youth Fishing Essay Contest and promotion of National Hunting and Fishing Day. Information and Education also coordinates volunteers in the Wildlife Conservation Corps and Hunter Education programs.

Published literature includes three issues of the *Fish and Wildlife Digest* which contains a summary of rules and management information, news releases, handicap-accessible fishing sites, informational brochures and our new *Wild Places & Open Spaces* map. This office maintains the division's site on the Internet: www.state.nj.us/dep/fgw.

The Pequest Trout Hatchery and Natural Resource Education Center offers quality programs to school and organized civic groups as well as the general public. Approximately 50,000 people visited the hatchery including more than 4,000 people in 113 organized groups. With the help of volunteers, nearly



2,000 people participated in 95 fishing education classes at the Fishing Education Pond. This includes the public classes offered on the two Free Fishing Days held each year. Fifty-one "Budding Naturalist" programs were presented on a wide range of natural resource topics to more than 1,000 people. The annual Open House, held the weekend before the opening of trout season, was again a tremendous success with nearly 7,000 people attending.

Becoming an Outdoors-Woman Program

The "Becoming an Outdoors-Woman" (B.O.W.) program is designed primarily to provide women with a welcoming environment in which to learn outdoor skills. However, anyone over 18 years of age is welcome to participate. The division's B.O.W. program reached out to approximately 400 women in fiscal year 1999. The program sponsored eight workshops, a mixture of three-day weekend workshops and one-day Beyond B.O.W. events:

- Introduction to Shooting Sports (Beyond B.O.W.)—105 participants
- Fly Fishing Techniques for Women (Beyond B.O.W. weekend)—60 participants
- "Becoming an Outdoors-Woman" northern weekend—125 participants
- Fly Fishing Clinic (Beyond B.O.W.)—40 participants
- Sedge Island Sampler (Beyond B.O.W.)—30 participants
- "Becoming an Outdoors-Woman" coastal weekend—100 participants
- Pursuit of Whitetails (Beyond B.O.W.)—15 participants
- Surf Fishing Clinic for Women (Beyond B.O.W.)—30 participants

Project WILD and Wildlife Education

In FY99 there were 16 Project WILD workshops for 290 participants. Pre-service teacher training was held at 3 colleges. In-service workshops were held in 5 districts, one of which was for teachers of students with disabilities.

A three-day facilitator training in Project WILD, Aquatic WILD, Project WET and Project Learning Tree was held for 40 recruits. Funding was provided by EPA and included training in the NJ Core Curriculum Content Standards.

Seven additional WILD School Sites workshops were held with 144 participants. In all of these workshops, competitive grants were offered solely to teachers who participated in the workshops. The "Wildlife Habitat Incentives Program" by USDA's

NRCS provided funds up to \$2,500 per school on a competitive basis.

Aquatic Education

Funded by the Federal Aid in Sportfish Restoration Program, this project's focus is teacher workshops. The twentieth annual weekend Coastal Workshop for Teachers taught 60 teachers; another highlight was the 3-day facilitators training which included the following aquatic programs: Aquatic WILD, Project WET, and Wonders of Wetlands; 3 Aquatic WILD workshops

Six free, overnight workshops were held at the division's rustic Sedge House on Sedge Island in Barnegat Bay to encourage outdoor learning.

Additional aquatic education efforts include staff accompanying stocking trucks from the Hackettstown Hatchery supplying sunfish to 16 of the 47 children's fishing derbies supported by the division. The staff's presentation highlights the raising of fish at the Hayford Hatchery and the division's role in managing the state's freshwater fisheries resource.

In collaboration with the Division of Science and Research, six Fishing Education Programs were presented in 5 locations as part of the Urban Fishing Program. The goal of the program is to familiarize urban youth with their local waters. This is a unique example of the efforts made to extend the reach of the division.

Clean Vessel Act Program

This program is designed to reduce boat sewage discharge into state waters by providing funds to marinas for construction, renovation, operation and maintenance of pumpout stations. A secondary goal is to provide information on the environmental advantages of using pumpout stations.

Staff promoted the Clean Vessel Act (CVA) program at boat shows and other venues, conducted boater surveys, developed signage and a web page. Public service announcements, displays and visits to marinas were part of the campaign.

Mass distribution of the 1998 *Pumpout Station and Season Guide* directory was completed, and production begun on the 1999 directory listing New Jersey marinas with pumpout stations and highlighting the benefits of using these facilities. Directories were distributed to marinas, libraries, municipal and division offices and the general public.

The Clean Vessel Act project developed new public information strategies, including the CVA home page on the Internet; developed "Community Billboard" public service announcements (PSA's) for cable television; created radio PSA's, and other public outreach efforts; and erected CVA inlet signs in numerous locations;

Hunter Education

The goal of hunter education is to place a safe, responsible, knowledgeable, and involved hunter and trapper in the field. New Jersey law requires that all persons who purchase a hunting or trapping license shall present a hunter education course completion card or a previously issued resident license from this or any state. The curriculum stresses a hunter's obligations to the resource, to landowners, to other hunters and to themselves. Courses are taught by volunteers selected and trained by professional staff from the division. The unit also provided remedial sportsman education training to 9 persons convicted of wildlife violations. In fiscal year 1999, 465 hunter education volunteer instructors donated 15,780 hours of time to conduct 268 courses serving 13,499 applicants and 7,446 graduates.

The hunter education unit provided instruction to novice and inexperienced shooters about safe handling of firearms, airguns and bows with arrows for various public groups. Staff coordinated the "Take a Kid Hunting" pheasant hunt for more than 432 youth hunters. The unit also provided services to hunters with disabling conditions, including permitting alternative methods for hunting.

Open Spaces & Wild Places Map

In June, the Office of Information and Education completed efforts on the production of a new publication entitled *New Jersey's Wild Places and Open Spaces—A wildlife enthusiast's guide to finding and using public open space in the Garden State.* The publication, designed similar to a road map, offers the outdoors-person a wealth of information on locating and exploring New Jersey's open spaces in a compact, easy-to-read format.

The map contains valuable information on division wildlife management areas, plus state parks, forests and more. Showcasing a full-color map of New Jersey on one side, public areas are highlighted with an accompanying wildlife and activity grid for each on the opposite side. It is available for a cost of \$3 (\$4 through the mail).

